

ABSTRACT

An improved semiconductor device and method for making it. That semiconductor device includes a first insulating layer, having a low-k dielectric constant that preferably comprises a carbon doped oxide, that is formed on a substrate. The device further includes a second layer, which is formed on the first layer, that has a relatively high dielectric constant and superior mechanical strength. The second layer is preferably under compressive stress. A third layer may be formed on the second layer, which has a relatively low dielectric constant and relatively poor mechanical strength, and a fourth layer may be formed on the third layer, which has a relatively high dielectric constant and superior mechanical strength.

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